

Comparison of Menstrual Symptoms in University Students with and without Female Genital Mutilation/Cutting

Şeyma Zehra Altunkurek¹, Eylül Yeşilyurt², Samira Hassan Mohamed³

¹Department of Public Health Nursing, University of Health Sciences, Gulhane Faculty of Nursing, Ankara, Türkiye; ²Department of Public Health Nursing, Ufuk University School of Nursing, Ankara, Türkiye; ³Department of Nursing, University of Health Sciences, Somalia Mogadishu Recep Tayyip Erdoğan Faculty of Health Sciences, Mogadishu, Somalia

Correspondence: Samira Hassan Mohamed, Email samirahsn1992@gmail.com

Purpose: The aim of this study was to compare the menstrual symptoms and dysmenorrhea in university students who underwent Female genital mutilation/cutting (FGM/C), in Mogadishu, Somalia, and students who did not undergo FGM/C in Ankara, Türkiye.

Methods: A comparative cross-sectional study design was used.

Results: Among the participants with FGM/C, 88.5% were Type 1 and the age at FGM/C was 8 years. The pain severity was 6.20 ± 2.54 in women with FGM/C and was higher than that of those without FGM/C (5.97 ± 2.32), but no significant difference was found. Among those who had FGM/C, 66% had a menstrual duration of 3–5 days, while 52.0% of those who did not have FGM/C had a menstrual duration of 6–8 days ($p < 0.05$). While 85.1% of those without FGM/C had a menstrual cycle of 21–35 days, 35% of those with FGM/C had a menstrual cycle of less than 20 days ($p < 0.05$). It was found that 95% of those who have undergone female circumcision and 90.2% of those who have not had dysmenorrhea ($p < 0.05$). Painkillers were always used by 28% of women with FGM/C and 26.3% of women without FGM/C ($p < 0.05$). The total MSS score of those who have not had FGM/C was 3.34 ± 0.72 and the score of those who have had FGM/C was 2.91 ± 0.74 ($p < 0.05$). The negative effects sub-dimension score was found to be higher in the non-FGM/C group with 3.20 ± 0.75 , while the coping methods sub-dimension score was higher in the FGM/C group with 2.91 ± 1.13 ($p < 0.05$).

Conclusion: FGM/C is still common in Somalia. Our study results showed that having FGM/C may cause differences in dysmenorrhea and menstrual symptoms. Efforts to increase students' effective coping with menstrual symptoms and dysmenorrhea are thought to be useful.

Keywords: female genital mutilation, menstrual symptoms, university students, Somalia, Turkey

Introduction

The removal of female genitalia is a culturally dependent practice known as female genital mutilation/cutting (FGM/C), commonly referred to as female circumcision.¹ FGM/C is commonly acknowledged as an act against women and girls in South Asian, Middle Eastern, and different African countries.² FGM/C is still performed on about 200 million girls and women today in 30 countries across Africa, the Middle East, and Asia.³ The prevalence of FGC in The Gambia is 76.3% among women aged 15–49.⁴ In Djibouti, a small African country, 98% of the female population is exposed to various types of FGM, and a study by the Djibouti Ministry of Health found that 93% of women aged 14–45 were exposed to FGM/C types II and III.⁵ In Kenya, FGC covers more than three-quarters of the country.⁶ Meanwhile, Somalia has the highest incidence of FGM, as 98% of girls aged between 5–11 are subjected to the most brutal form, Type III infibulation.⁷

FGM/C is divided into four categories by the World Health Organization according to how severe the excision was. Clitoral glands are eliminated entirely or in part in Type 1. Clitoral glands and labia minora are eliminated entirely or partially in Type 2. The narrowing of the vaginal entrance by the formation of a covering seal is referred to as type 3, or infibulation. Type 4 refers to non-medical operations that involve piercing, pricking, and cauterization of the genitalia.⁸

FGM/C has no discernible health benefits and is invariably distressing.^{9–11} FGM/C is linked to a number of health issues, including dysmenorrhea, infections, bleeding, menstrual and sexual issues, anxiety, and post-traumatic stress disorder.^{10,12,13}

Menstrual disorders refer to menstrual abnormalities such as irregular menstrual cycles, heavy menstrual bleeding, infrequent menstrual bleeding, dysmenorrhea, and premenstrual syndrome.¹⁴ It has been estimated that as many as 75% of adolescent females experience menstrual problems.¹⁵ Dysmenorrhea is a term describing uterus-related menstrual pain.¹⁶ There are two types of dysmenorrhea: primary and secondary. Primary dysmenorrhea is defined as recurrent, cramping pain that occurs with menstruation without pelvic pathology.¹⁷ In secondary dysmenorrhea, menstrual pain is associated with the presence of any pathology such as endometriosis.¹⁸ Dysmenorrhea is the most common gynecological complaint in adolescent and young adult women, and its prevalence is estimated to be between 42% and 92%.¹⁹ In dysmenorrhea, the severity of pain may be mild or severe enough to disrupt the individual's daily life.²⁰ The proportion of women who experience dysmenorrhea varies by region and country.²¹ For instance, rates of dysmenorrhea among women in China, Ethiopia, Ghana, Spain, and Turkey have been reported to range from 40% to 85%.^{19,21–23}

While the possible health dangers associated with FGC have been discussed in some studies, it is frequently asserted that it causes menstrual pain.^{24–26} Limited research has looked into this purported connection.^{3,24–27} Although health policy documents and research on FGC have frequently suggested that menstruation discomfort is caused by FGM/C due to potential health risks, very few studies have looked closely at this supposed association or its reasons. The most frequent side effect of FGM/C, according to a study, is painful menstrual bleeding brought on by a stopped menstrual flow.²⁸ Long-term complications of FGM include chronic vaginal and pelvic infections, dyspareunia, scarring and keloids, urinary problems (recurrent cystitis, urethritis, painful urination), and menstrual disorders.²⁹ The majority of the literature is devoted to two theories: either haematometra (a buildup of blood in the uterus and vagina) or narrow vaginal opening (FGM/C type III) may result in infections that spread to the internal genitalia, causing inflammation, scarring, and painful menstruation.^{30–32} Empirical research has not yet verified the assumed causality.

This study aimed to compare menstrual symptoms and dysmenorrhea in university students with and without FGM. Our study will make a great contribution to the literature as it is one of the rare studies in the field.

Materials and Methods

Study Design

This study has a cross-sectional comparative design.

Population and Sample

University of Health Sciences is Türkiye's largest university providing education only in the field of health. The university has departments in different countries, particularly Somalia. Faculty of Gulhane Nursing and Somalia Mogadishu Recep Tayyip Erdoğan Faculty of Health Sciences are two faculties affiliated with the university. Education is provided in Turkish at the faculties. The study population comprised 1200 female students enrolled in the University of Health Sciences, Somalia's Mogadishu Recep Tayyip Erdoğan Faculty of Health Sciences, and the University of Health Sciences, Faculty of Gulhane Nursing, Ankara, Türkiye. The study covered all women over the age of 18 who volunteered to participate, and no sample calculations were undertaken. The sample consisted of 796 individuals at the conclusion of the study.

Participants

The research was conducted in the academic year of January–September 2021 at the University of Health Sciences, Somalia's Mogadishu Recep Tayyip Erdoğan Faculty of Health Sciences, and the Faculty of Gulhane Nursing. Among the participants in the study were female students who were at least eighteen years old and willing to participate.

Measures

A “Descriptive Information Form” which was created by the researchers by reviewing the relevant literature, a “Visual Analog Scale (VAS)”, and the “Menstruation Symptom Scale” were used for data collection.^{32,33}

Descriptive Information Form

The form consists of a total of 14 questions regarding the socio-demographic characteristics of the participants (3 questions), the menstruation period characteristics and knowledge status (8 questions), and the status of female genital mutilation and knowledge status (3 questions).^{34–37}

Visual Analog Skala (VAS)

VAS is a basic pain monitoring and pain severity measurement technique. Its horizontal scale is 10 cm. On the pain scale, 0 denotes no pain, 1–3 mild pain, 4–7 moderate pain, and 8–10 the greatest amount of agony.³² Participants in the study were asked to score the degree of pain they experienced during their periods on a scale of 0 to 10.

Menstruation Symptom Scale (MSS)

Chesney and Tasto created it in 1975 to measure menstruation pain and symptoms.³⁸ In 2009, Negriff revised the scale by reevaluating its factor structure and suitability for use with teenagers.³⁹ Güvenç et al translated the scale into Turkish in 2014.⁴⁰ There are 22 items on the scale that ask about menstruation symptoms. The Likert-type scale has five points, ranging from never (1) to always (5). There are three sub-dimensions: “Negative effects/somatic complaints” (items 1–13), “Menstrual pain symptoms” (items 14–19), and “Coping methods” (items 20–22). An increase in the severity of menstrual symptoms about the relevant sub-dimension is indicated by a rise in the mean score.⁴⁰ In our study, the Cronbach alpha value of the scale was determined as 0.88 for the total MSS, 0.85 for the “Negative Effects/Somatic Complaints” sub-dimension, 0.76 for the “Pain Symptoms” sub-dimension, and 0.55 for the “Coping Methods” sub-dimension.

Data Collection

The data of the study were collected through the Google Forms. The researchers informed the students in the WhatsApp student groups by explaining the purpose of the study and shared the survey form. Students who agreed to participate in the study were able to answer the survey questions after approving the Informed Voluntary Consent Form. Data collection lasted approximately 8–10 minutes.

Statistical Analyses

For data analysis, IBM SPSS version 20 (Chicago, IL, USA) was utilized. For continuous data, mean, standard deviation, median, minimum, and maximum values were provided in descriptive statistics; for discrete data, number and percentage values were provided. The distribution of continuous data was assessed with the Kolmogorov–Smirnov test. Scale scores and continuous data with two-group independent variables were compared using the Mann–Whitney *U*-test, while scale scores and variables with more than two groups were compared using the Kruskal Wallis Analysis of Variance. Chi-Square and Fisher’s Exact tests were used in group comparisons of nominal variables (cross tables). The correlations between continuous data and scale scores were analyzed with Spearman correlation coefficient. The statistical significance limit was accepted as $p < 0.05$.

Ethical Considerations

This study was conducted in accordance with the declaration of Helsinki. Written permission was obtained from the Faculty of Gulhane Nursing and Mogadishu Recep Tayyip Erdoğan Faculty of Health Sciences in University of Health Sciences. To be able to conduct the study, ethical approval numbered 5089 and dated 12/21/2020 was taken from Mogadishu Somalia Turkey Recep Tayyip Erdoğan Training and Research Hospital Clinical Research Ethics Committee.

Results

A total of 796 female students, 400 female students who underwent FGM/C and 396 female students who did not undergo FGM/C, participated in the study. The mean age of the students was 19.55 ± 1.38 years. The mean age at menarche was 13.35 ± 1.43 years. The mean age at FGM/C was found to be 8.04 ± 2.28 years. The type of FGM/C of 88.5% of the students was Type I. Fifty-five percent of the group with FGM/C and 30.6% of the group without FGM/C were in the second grade. More than 50% of both groups had middle income. Almost all of both groups had dysmenorrhea. The severity of dysmenorrhea pain was 6.20 ± 2.54 in those with FGM/C and 5.97 ± 2.32 in those without FGM/C. The duration of menstruation was 3–5 days in 66% of those with FGM/C and 6–8 days in 52% of those without FGM/C. The menstrual cycle of 85.1% of those without FGM/C and 43.5% of those with FGM/C was between 21–35 days. Almost all of both groups had knowledge of menstruation. Of those who underwent FGM, 70.4% stated that they received information about menstruation from their mother or siblings. In addition, 64.5% of the circumcised students and 77% of the uncircumcised students stated that they took painkillers. The intensity of menstrual bleeding was normal in 61.5% of the students with FGM/C and 39.6% of those without FGM/C (Table 1).

Table 1 Comparison of Sociodemographic and Menstrual Characteristics of Students with and without FGM/C

	Those With FGM/C (n=400)		Those Without FGM/C (n=396)	
	Mean ± SD Median (Min-Max)		Mean ± SD Median (Min-Max)	
Age	19.55±1.38 20 (17–26)		20.23±1.69 20 (17–26)	
Menarche age	13.67±1.51 14 (9–17)		13.03±1.26 13 (9–17)	
Age of female genital cutting	8.04±2.28 8 (3–17)		-	
Types of female genital cutting				
Type I	354 (88.5%)		-	
Type II	46 (11.5%)		-	
Type III	-		-	
Type IV	-		-	
	n	%	n	%
Degree of study				
I	197	49.2	135	34.1
2	202	50.5	121	30.6
3	0	0	81	20.5
4	1	0.2	59	14.9
Family Income				
Low	58	14.5	95	24.0
Middle	300	75.0	238	60.1
High	42	10.5	63	15.9

(Continued)

Table 1 (Continued).

	Those With FGM/C (n=400)		Those Without FGM/C (n=396)	
	Mean ± SD Median (Min-Max)		Mean ± SD Median (Min-Max)	
Dysmenorrhea				
Yes	382	95.5	357	90.2
No	18	4.5	39	9.8
Pain severity due to dysmenorrhea	6.20±2.54 6 (1–10)		5.97±2.32 6 (1–10)	
	n	%	n	%
Duration of menstruation				
Less than 3 days	18	4.5	4	1.0
3–5 days	264	66.0	173	43.7
6–8 days	118	29.5	206	52.0
9 days and above	0	0	13	3.3
Menstruation cycle				
Irregular	50	12.5	36	9.1
Less than 20 days	140	35.0	10	2.5
21–35 days	174	43.5	337	85.1
>35 days	36	9.0	13	3.3
Knowledge about menstruation				
Yes	392	98.0	396	100
No	8	2.0	0	0
From whom did you get the information?				
Mother/sister	276	70.4	217	54.8
Friend	30	7.7	18	4.5
Doctor/nurse.	6	1.5	54	13.6
Book/magazine	18	4.6	4	1.0
Teacher	50	12.8	45	18.9
Internet	12	3.1	28	7.1
Use of painkillers during menstruation				
Using	258	64.5	305	77
Non-user	142	35.5	91	23.0

(Continued)

Table 1 (Continued).

	Those With FGM/C (n=400)		Those Without FGM/C (n=396)	
	Mean ± SD Median (Min-Max)		Mean ± SD Median (Min-Max)	
Intensity of bleeding during menstruation				
Very intense	32	8.0	13	3.3
Intense	34	8.5	142	35.9
Less intense	68	17.0	78	19.7
Normal	246	61.5	157	39.6
Not intense at all	20	5.0	6	1.5

In **Table 2**, menstrual period characteristics of students with and without FGM/C were compared. Among the students who had pain, those with FGM/C had higher pain severity (6.20 ± 2.54), but there was no significant difference in pain severity when compared with those without FGM/C (5.97 ± 2.32) ($p > 0.05$). There was a statistically significant difference between the menstrual durations of students with and without FGM/C ($p > 0.05$). While 66% of the students with FGM/C had a menstrual period of 3–5 days, 52% of the students without FGM/C had a menstrual period of 6–8 days. The significant difference was due to the shorter menstrual cycle of the students with FGM/C. The rate of students with FGM/C who had a menstrual cycle of

Table 2 Comparison of Menstrual Characteristics of Students with and without FGM/C

	Those With FGM/C (n=400)		Those Without FGM/C (n=396)		U/ χ^2	p
	Mean $\pm$ SD Median (Min-Max)		Mean $\pm$ SD Median (Min-Max)			
Pain severity	6.20 $\pm$ 2.54 6 (1–10)		5.97 $\pm$ 2.32 6 (1–10)		U=648 15.0	0.197
	n	%	n	%		
Duration of menstruation						
Less than 3 days	18	4.5	4	1.0	χ^2 =64.74	<0.001
3–5 days	264	66.0	173	43.7		
6–8 days	118	29.5	206	52.0		
9 days and above	0	0	13	3.3		
Menstruation cycle						
Irregular	50	12.5	36	9.1	χ^2 =177.20	<0.001
Less than 20 days	140	35.0	10	2.5		
21–35 days	174	43.5	337	85.1		
>35 days	36	9.0	13	3.3		
Dysmenorrhea						
Yes	382	95.5	357	90.2	χ^2 =8.563	0.003
No	18	4.5	39	9.8		

(Continued)

Table 2 (Continued).

	Those With FGM/C (n=400)		Those Without FGM/C (n=396)		U/ χ^2	p
	Mean $\pm$ SD Median (Min-Max)		Mean $\pm$ SD Median (Min-Max)			
Use of painkillers during menstruation						
User	258	64.5	305	77.0	χ^2 =15.067	<0.001
Non-user	142	35.5	91	23.0		
Intensity of bleeding during menstruation						
Very intense	32	8.0	13	3.3	χ^2 =102.15	<0.001
Intense	34	8.5	142	35.9		
Less intense	68	17.0	78	19.7		
Normal	246	61.5	157	39.6		
Not intense at all	20	5.0	6	1.5		

Notes: U: Mann Whitney U-test, χ^2 : Chi-Square Test.

21–35 days was 43.5%, whereas the rate of students without FGM/C who had a menstrual cycle of 21–35 days was 85.1%. There was a significant difference between the two groups due to the fact that the number of students without FGM/C and with a menstrual cycle of 21–35 days was higher ($p < 0.001$).

The rate of dysmenorrhea in those with FGM/C was 95.5%, while this rate was 90.2% in those without FGM/C. There was a statistically significant difference between the two groups due to the higher rate of dysmenorrhea in those with FGM/C ($p = 0.003$). While 77% of the students without FGM/C used painkillers, 64.5% of the students with FGM/C used painkillers. Since the rate of painkiller use was higher in students without FGM/C, there was a statistically significant difference between the two groups ($p < 0.001$). Regarding the intensity of bleeding during menstruation, 61.5% of the students with FGM/C and 39.6% of the students without FGM/C were found to have “normal” bleeding. There was a statistically significant difference between the two groups in terms of menstrual intensity ($p < 0.001$). This difference was also due to the fact that 35.9% of the students who did not undergo FGM/C were identified to have “intense” bleeding.

Table 3 shows the comparison of the mean scores of the students on MSS and its sub-dimensions. There was a significant difference between the total MSS scores of students with and without FGM/C ($p < 0.001$). The total MSS score of those without FGM/C (3.34 ± 0.72) was higher than those with FGM/C (2.91 ± 0.74). There was a significant

Table 3 Comparison of the Menstrual Symptom Scale (MSS) Scores of Students with and without FGM/C

MSS Sub-Dimensions	Those with FGM/C (n=400)	Those without FGM/C (n=396)	U	p
	Mean $\pm$ SD Median (Min-Max)	Mean $\pm$ SD Median (Min-Max)		
Negative effects/ somatic complaints	2.68 $\pm$ 0.82 2.53 (1–5)	3.20 $\pm$ 0.75 3.23 (1–5)	U=49152.5	<0.001
Menstrual pain symptoms	3.42 $\pm$ 0.96 3.58 (1–5)	3.54 $\pm$ 0.87 3.66 (1–5)	U=73814.0	0.096
Coping methods	2.91 $\pm$ 1.13 3 (1–5)	2.77 $\pm$ 1.09 2.66 (1–5)	U=72575.0	0.040
Total score	2.91 $\pm$ 0.74 2.90 (1.09–4.77)	3.34 $\pm$ 0.72 3.27 (1–5)	U=585.5	<0.001

Note: U: Mann Whitney U-test.

difference between the scores of the students with and without FGM/C on the negative effects/somatic complaints sub-dimension ($p<0.001$). The Negative effects/somatic complaints sub-dimension scores of the students without FGM/C (3.20 ± 0.75) were higher than the Somalian students with FGM/C (2.68 ± 0.82). There was a significant difference between the scores of the students with and without FGM/C on the coping methods sub-dimension ($p=0.040$). The Coping methods sub-dimension scores of the students without FGM/C (2.77 ± 1.09) were lower than those of the students with FGM/C (2.91 ± 1.13). There was no significant difference between the scores of the students with and without FGM/C on the Menstrual pain symptoms sub-dimension ($p>0.05$).

In Table 4, the relationship between the characteristics of the students with and without FGM/C and their MSS scores is presented. There was a positive correlation between age and Negative effects/somatic complaints score ($r=0.196$ $p<0.001$), Menstrual pain symptoms score ($r=0.105$ $p<0.05$), and total MSS score ($r=0.172$ $p<0.001$) in students with FGM/C. Menstrual symptoms of students with FGM/C increased with increasing age.

There was a positive correlation between pain severity and Negative effects/somatic complaints score ($r=0.338$ $p<0.001$), Menstrual pain symptoms score ($r=0.296$ $p<0.001$), Coping methods score ($r=0.286$ $p<0.001$), and total MSS score ($r=0.398$ $p<0.001$) in students with FGM/C. As the pain severity of the students with FGM/C increased, their coping methods with menstrual symptoms increased. Moreover, there was a positive correlation between pain severity and Negative effects/somatic complaints score ($r=0.447$ $p<0.001$), Menstrual pain symptoms scores ($r=0.482$ $p<0.001$), Coping methods scores ($r=0.511$ $p<0.001$), and total MSS score ($r=0.553$ $p<0.001$) in students without FGM/C. As pain severity increased, coping with menstrual symptoms increased in students without FGM/C.

There was a negative correlation between painkiller use and Negative effects/somatic complaints score ($r=-0.232$ $p<0.001$), Menstrual pain symptoms score ($r=-0.145$ $p<0.05$), Coping methods score ($r=-0.447$ $p<0.001$), and total MSS

Table 4 The Relationship Between Some Characteristics of Students with and without FGM/C and Their MSS Scores

Characteristics	Those with FGM/C (n=400)				Those without FGM/C (n=396)			
	Negative effects/ somatic complaints	Menstrual pain symptoms	Coping methods	Total score	Negative effects/ somatic complaints	Menstrual pain symptoms	Coping methods	Total score
Age	$p<0.001$ $r=0.196$	$p=0.035$ $r=0.105$	$p=0.692$	$p=0.001$ $r=0.172$	$p=0.048$	$p=0.260$	$p=0.069$	$p=0.064$
Grade	$p=0.035$ $r=0.105$	$p=0.584$	$p=0.006$ $r=-0.138$	$p=0.470$	$p=0.018$	$p=0.186$	$p=0.076$	$p=0.028$
Age at menarche	$p=0.881$	$p=0.140$	$p=0.555$	$p=0.469$	$p=0.582$	$p=0.361$	$p=0.235$	$p=0.409$
Duration of menstruation	$p=0.209$	$p=0.489$	$p=0.264$	$p=0.234$	$p=0.602$	$p=0.447$	$p=0.506$	$p=0.918$
Menstruation cycle	$p=0.488$	$p=0.155$	$p=0.629$	$p=0.222$	$p=0.933$	$p=0.976$	$p=0.819$	$p=0.866$
Age at FGM/C	$p=0.231$	$p=0.970$	$p=0.451$	$p=0.459$	–	–	–	–
Pain severity	$p<0.001$ $r=0.338$	$p<0.001$ $r=0.296$	$p<0.001$ $r=0.286$	$p<0.001$ $r=0.398$	$p<0.001$ $r=0.447$	$p<0.001$ $r=0.482$	$p<0.001$ $r=0.511$	$p<0.001$ $r=0.553$
Use of painkillers	$p<0.001$ $r=-0.232$	$p=0.004$ $r=-0.145$	$p<0.001$ $r=-0.447$	$p<0.001$ $r=-0.282$	$p<0.001$ $r=-0.392$	$p<0.001$ $r=-0.351$	$p<0.001$ $r=-0.749$	$p<0.001$ $r=-0.518$
Bleeding intensity	$p=0.023$ $r=-0.114$	$p=0.850$	$p<0.001$ $r=-0.218$	$p=0.022$ $r=-0.115$	$p<0.001$ $r=-0.272$	$p<0.001$ $r=-0.254$	$p<0.001$ $r=-0.266$	$p<0.001$ $r=-0.317$

Note: r: Spearman Correlation coefficient.

Abbreviations: FGM/C, Female genital mutilation/cutting; VAS, Visual Analog Scale; MSS, Menstrual Symptom Scale.

score ($r=-0.282$ $p<0.001$) in students with FGM/C. The use of painkillers reduced the methods of coping with menstrual symptoms in students with FGM/C. In addition, there was a negative correlation between painkiller use and Negative effects/somatic complaints score ($r=-0.392$ $p<0.001$), Menstrual pain symptoms score ($r=-0.351$ $p<0.05$), Coping methods score ($r=-0.749$ $p<0.001$), and total MSS score ($r=-0.518$ $p<0.001$) in students without FGM/C. The use of painkillers reduced the methods of coping with menstrual symptoms in students without FGM/C.

There was a negative correlation between the intensity of menstrual bleeding and Negative effects/somatic complaints score ($r=-0.114$ $p<0.05$), Coping methods score ($r=-0.218$ $p<0.001$), and total MSS score ($r=-0.115$ $p=0.022$) in students with FGM/C. In students without FGM/C, there was a negative correlation between the intensity of menstrual bleeding and Negative effects/somatic complaints score ($r=-0.272$ $p<0.001$), Menstrual pain symptoms scores ($r=-0.254$ $p<0.001$), Coping methods score ($r=-0.266$ $p<0.001$), and total MSS score ($r=-0.317$ $p<0.001$). As the intensity of menstrual bleeding increased, methods of coping with menstrual symptoms decreased in both groups (Table 3).

Discussion

The present study provided quantitative research to the literature in terms of comparing dysmenorrhea and menstrual symptoms of university students with and without FGM/C. In the study, almost 50.25% of the participants had undergone Type 1 FGM. In a study conducted in Egypt, it was reported that 50% of women had undergone Type 1 FGM/C.⁴¹ Women in Sudan have been reported to have undergone Type 1 FGM/C.⁴² The results suggest that FGM/C is still practiced in African and Middle Eastern countries and that Type 1 FGM/C is more common in African countries.

In our study, it was determined that the duration of menstruation was longer in those without FGM/C. It was found that more than half of the participants with FGM/C had a duration of menstruation of 3–5 days, while those without FGM/C had a duration of 6–8 days. In a study in which those with and without FGM/C were compared in Egypt, the duration of menstruation was reported to be 5 days in both groups.¹² According to the difference in our study, the fact that the participants without FGM/C were from different regions may have affected the duration of menstruation.

In our study, the menstrual cycle duration was reported by 85% of participants without FGM/C to be between 21 and 35 days, compared to 43.5% of individuals who had FGM/C. The length of the menstrual cycle was determined to be 27 days for students with FGM/C and 28 days for those without FGM/C in a study by Arafa et al with Egyptian university students.⁴² The length of the menstrual periods of circumcised and non-circumcised women was found to be equal in the study by Hamada et al with Egyptian women.¹² According to these findings, the status of having FGM/C does not affect the menstrual cycle much, suggesting that the region of residence has a greater effect on the menstrual cycle.

Dysmenorrhea is one of the most common gynecological problems in young women.⁴³ In our study, almost all of the women with FGM/C (95%) reported dysmenorrhea. This rate was higher compared to women without FGM/C. Consistent with the results of our study, in the study of Hamada et al, women who had undergone circumcision were found to experience dysmenorrhea at a higher rate. However, in contrast to these studies, in the study conducted in Egypt, dysmenorrhea was found to be higher in women without FGM/C.¹² In both studies, the rate of experiencing dysmenorrhea in women was approximately 90%. In various studies, the prevalence of dysmenorrhea has been reported to be between 50% and 90% worldwide.^{44–46} The variation in these rates may be due to the lack of a standardized method to identify dysmenorrhea.

Pain is a subjective finding that varies between individuals. Although there are different methods for pain measurement in the literature, in the present study, pain level was evaluated according to self-report using a pain scale. In our study, both groups were found to have moderate menstrual pain. In the study conducted by Almslamani et al with university students in Saudi Arabia, it was reported that the participants had severe pain.⁴⁷ In the study conducted with Lebanese students, it was found that more than half of the participants had high levels of pain.⁴⁸ In their study, Maryam et al reported that 36.5% of those who experienced dysmenorrhea experienced moderate and 51.4% experienced high-severity pain.⁴⁸ In contrast to these studies, in the study conducted with university students in Ethiopia, it was reported that students experienced low levels of dysmenorrhea pain.⁴⁹ These results suggest that many individual, environmental, and socio-cultural factors are effective in different results in the literature.

Self-medication is a common tactic used by dysmenorrheic women to manage their agony.⁵⁰ In our study, 77% of the group without FGM/C and 64.5% of the group with FGM/C reported using opioids for dysmenorrhea. The participants in

the study, which involved students in Ghana, used a variety of analgesics to treat menstrual pain, including paracetamol, diclofenac, Buscopan (hyoscine butyl bromide), Efpac (a combination of aspirin and paracetamol), ibuprofen, and mefenamic acid. The study also revealed that painkiller efficacy varied and that some participants did not receive adequate pain relief.⁵⁰ In a study carried out in Turkey, it was found that 52% of people with dysmenorrhea took medicines while they were menstruating.⁵¹ According to a study conducted in Saudi Arabia, 66.7% of female students took medication to treat their pain.⁴⁷ According to the study's findings, a large percentage of women seek medical attention in order to relieve their dysmenorrhea suffering.

In the study, the relationship between some characteristics of the students with and without FGM/C and the total MSS and sub-dimension scores was found to be positively correlated with the severity of pain and negatively correlated with the frequency of use of painkillers in both groups. These results indicate that the use of painkillers reduces menstrual symptoms, whereas pain increases menstrual symptoms.

Limitations

This study has several strengths. The response rate was 100%. Another strength was the comparison of students with and without FGM/C from two different countries. The sample size was adequate. The study also has some limitations. Since 98% of women in Mogadishu, Somalia have undergone FGM/C, the sample was recruited from different countries. Students who were not circumcised were selected from a similar group of students receiving education at the same university in Turkey. Another limitation was that the students were not asked about their methods of coping with menstrual symptoms and dysmenorrhea and the traditional and medical methods they used. It is important to explore this issue because access to health services and medication is limited and expensive, especially in Somalia. Despite these limitations, the present study revealed differences in dysmenorrhea and menstrual symptoms between women with and without FGM/C.

Conclusion

In conclusion, FGM/C is still widely practiced in Somalia. The results of our study demonstrated that FGM/C caused more dysmenorrhea pain, that the number of women with a menstrual cycle of less than 20 days was higher, and that menstruation usually lasted 3–5 days. It was also found that students who were not circumcised had heavier menstrual bleeding. In the study, it was determined that as dysmenorrhea pain and menstrual symptoms increased, coping methods decreased. Half of the uncircumcised students stated that they used opioids for dysmenorrhea pain, while circumcised students used opioids less. These results suggest that students do not prefer to use opioids to cope with pain and use traditional coping methods because access to health services is limited and expensive in Somalia. Circumcised students, on the other hand, used opioids more frequently as a coping method. Although menstruation is a physiological condition, it affects every woman, whether with or without female genital mutilation, and it is recommended that women be counseled on effective coping methods to alleviate menstrual period-specific symptoms and alleviate their anxiety and pain. In addition, in future studies on dysmenorrhea and menstrual symptoms of women with and without FGM/C, it is recommended that studies be conducted to examine the coping methods used for dysmenorrhea and their effects and to promote effective coping methods.

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Disclosure

Regarding this study, the authors report no conflicts of interest.

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